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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/687,993

10/20/2003

Ok Byung Kim

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01/25/2010

STEIN MCEWEN, LLP
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2889

NOTIFICATION DATE

DELIVERY MODE

01/25/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptomail@smiplaw.com

Office Action Summary	Application No. 10/687,993	Applicant(s) KIM ET AL.	
	Examiner Karabi Guharay	Art Unit 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE, filed on 10/30/09.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4,5,7,11 and 12 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/09 has been entered.

Response to Amendment

Applicant's arguments, presented on 10/30/09 have been considered. Based on further discussion with interview with applicant's representative on 11/03/09, and based on declaration under Rule 1.132, filed on 12/24/09, previous rejection, filed on 7/30/09 has been withdrawn.

This application is in condition for allowance except for the presence of claim 13 directed to an invention non-elected with traverse in the reply filed on 4/11/08. The prosecution of this case is closed except for consideration of the above matter.

Allowable Subject Matter

Claims 1-2, 4-5, 7, 11-12 are allowed over the prior art of record.

Examiner's Reasons for Allowance

The following is an examiner's statement of reason for allowance:

Reasons for allowance are based on the persuasive arguments filed on 11/03/09 and based on declaration under Rule 1.132, filed on 12/24/09.

Further, regarding claim 1, the prior art of record neither shows nor suggests a display device comprising all the limitations set forth in claim 1, particularly comprising the limitation of the

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primary crystal grain boundaries are located within the gate regions of the first plurality of thin film transistors and are inclined to a first direction of current flowing from source to drain of each of the first plurality of thin film transistors in the display region at an angle of -30° to 30° and the secondary crystal grain boundaries are located within the gate regions of the first plurality of thin film transistors and are inclined to a second direction of current flowing from source to drain of each of the first plurality of thin film transistors in the display region, and wherein the primary crystal grain boundaries are located within the gate regions of the second plurality of thin film transistors and are inclined to the second direction of current flowing from source to drain of each of the second plurality of thin film transistors in the driving region at an angle of 30° to 150° and the secondary crystal grain boundaries are located within the gate regions of the second plurality of thin film transistors and are inclined to the first direction of the current flowing from source to drain of each of the second plurality of thin film transistors in the driving region.

Regarding claim 11, the prior art of record neither shows nor suggests a display device comprising all the limitations set forth in claim 11, particularly comprising the limitation of primary grain boundaries are inclined to a direction substantially perpendicular to current flowing from source to drain of each of the plurality of thin film transistor and the secondary crystal grain boundaries in the polysilicon substrate formed in the driving region are inclined to a direction substantially parallel to the current flowing from the source to the drain of each of the plurality of thin film transistors and wherein the primary crystal grain boundaries in the polysilicon substrate formed in the display region are inclined to a direction substantially parallel to the current flowing from the source to the drain of each of the plurality of thin film transistors

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and the secondary crystal grain boundaries in the polysilicon substrate formed in the display region are inclined to a direction substantially perpendicular to the current flowing from the source to the drain of each of the plurality of thin film transistors.

Regarding claim 12, the prior art of record neither shows nor suggests a display device comprising all the limitations set forth in claim 12, particularly comprising the limitation of wherein the primary crystal grain boundaries formed in the display region are inclined to a direction of current flowing from source to drain at an angle of -30° to 30° and the secondary crystal grain boundaries formed in the display region are substantially perpendicular to the current flowing from the source to the drain; and wherein the primary crystal grain boundaries formed in the driving region are inclined to a direction of current flowing from source to drain at an angle of 30° to 150° and the secondary crystal grain boundaries formed in the driving region are substantially parallel to the current flowing from the source to the drain.

Claims 2, 4-5 and 7 are allowed for same reason as claim 1, since they are dependent on claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

This application is in condition for allowance except for the following formal matters:

Presence of non-elected claim 13 as cited above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

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A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karabi Guharay/
Primary Examiner, Art Unit 2889